

Talks from the STAR Collaboration at DNP-2000

Session BG. Heavy Ion Reactions at Low and Intermediate Energies.

Thursday afternoon, 13:30, General Jackson's Redoubt

- 14:30 BE.006 A Multi-Wire Chamber Readout for STAR, *V. Morozov*
- 14:42 BE.007 The STAR Trigger System, *E. Judd*
- 14:54 BE.008 Performance of the STAR TPC with Au+Au Collisions, *E. Yamamoto*

Session DC. Mini-Symposium: First Results from RHIC I.

Friday morning, 09:00 General Emory's Redoubt

- 10:12 DC.007 First Results from HBT Interferometry with STAR data from RHIC, *D. Flier*

Session JC. Mini-Symposium: First Results for RHIC II.

Saturday morning, 09:00, General Emory's Redoubt

- 09:12 JC.002 Charged Hadron Spectra with the STAR Detector at RHIC, *M. Calderon*
- 09:24 JC.003 First Results from Event-by-Event Analysis with STAR, *J.G. Reid*
- 09:36 JC.004 Preliminary elliptic flow results measured with STAR, *R. Snellings*
- 11:24 JC.013 Particle Ratios From the $\sqrt{s_{NN}}=130\text{GeV}$ Au+Au Collisions, *N. Xu*

Session JD. Nucleon Structure.

Saturday morning, 09:00 Jefferson Davis Amphitheater

- 10:48 JD.010 Experimental Aspects of Determining delta-G from Direct Photon + Jet Events in Polarized pp Collisions Using the STAR Detector at RHIC, *C. Allgower*
- 11:00 JD.011 The STAR Spin Physics Program, *L.C. Bland*
- 11:12 JD.012 Transversity measurement with STAR at RHIC, *A. Ogawa*

Session KC. Mini-Symposium: First Results from RHIC III.

Saturday afternoon, 14:00 General Emory's Redoubt

- 14:00 KC.001 The STAR Barrel Electromagnetic Calorimeter, *S. Chattopadhyay*
- 14:36 KC.004 First look at strangeness at RHIC with the STAR detector, *H. Long*
- 14:48 KC.005 Silicon Drift Detector Accomplishments and Future Goals, *R. Willson*
- 15:00 KC.006 The STAR-RICH Detector at RHIC, *B. Lasiuk*
- 15:12 KC.007 The Level-3 Trigger System for STAR, *J. Berger*
- 15:24 KC.008 Prospects for resonance studies at STAR, *Z. Xu*
- 15:36 KC.009 Parity and Time Reversal Violation Studies at STAR, *E. Finch*
- 15:48 KC.010 Simulations and Signatures of P and CP Violation in Relativistic Heavy Ion Collisions, *J. Thomas*
- 16:00 KC.011 The Coherent Photon and Pomeron Physics Program at STAR, *J. Seger*

First Results from the STAR Experiment at RHIC



Thomas S. Ullrich for the STAR Collaboration

- The STAR experiment
- First run: datasets and trigger
- Detector performance
- First results
- Summary and Outlook

DNP 2000, Williamsburg, VA
Oct 4, 2000



Yale University

The STAR Collaboration

U.S. Labs:

Argonne, Berkeley, and
Brookhaven National Labs

U.S. Universities:

Arkansas, UC Berkeley, UC Davis,
UCLA, Carnegie Mellon, Creighton,
Indiana, Kent State, MSU, CCNY,
Ohio State, Penn State, Purdue,
Rice, Texas A&M, UT Austin,
Washington, Wayne State, Yale

Brazil:

Universidade de Sao Paolo

China:

IHEP - Beijing, IPP - Wuhan

England:

University of Birmingham

France:

Institut de Recherches Subatomiques
Strasbourg, SUBATECH - Nantes

Germany:

Max Planck Institute – Munich
University of Frankfurt

Poland:

Warsaw University, Warsaw
University of Technology

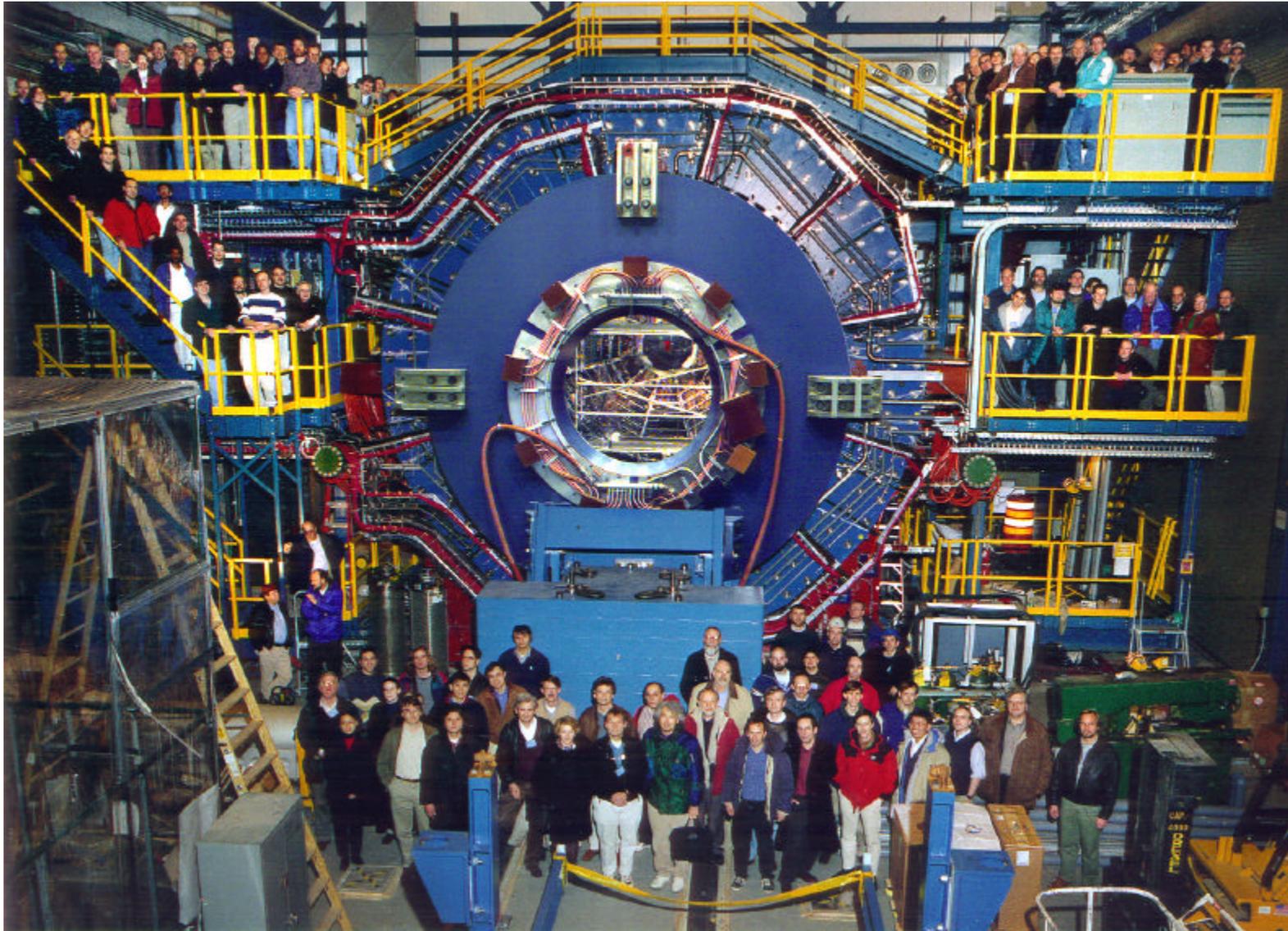
Russia:

MEPHI – Moscow, LPP/LHE JINR –
Dubna, IHEP - Protvino



Institutions: 36, Collaborators: 415, Spokesperson: John Harris

The STAR Collaboration



October 4, 2000

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Thomas S. Ullrich

STAR Physics Program

Relativistic Heavy Ion Physics

High Density QCD Matter

QCD Deconfinement Phase Transition

Chiral Phase Transition

Polarized Proton-Proton Interactions

Spin Structure of the Nucleon

2-Photon Physics

Intense EM Fields of Passing Nuclei

→ Coherent Source of γ 's

→ Photon, pomeron, meson interactions



STARs Relativistic Heavy Ion Physics Program

Explore new regimes: QGP, chiral phase transition

Initial Conditions

Nuclear (q and g) structure functions, nuclear shadowing
Jets , High Pt spectra

Probes of Deconfinement

Mini-jets, propagation/attenuation in matter
J/P suppression (e+e-)

Flavor equilibrium (strangeness saturation, multiply-strange baryons)

Critical (non-statistical, dynamical) fluctuations

Probes of Chiral Restoration

Resonance widths, masses, and branching ratios

Isospin fluctuations, disoriented chiral condensates

Kinematic Probes

Hadronic spectra, particle ratios, centrality dependence

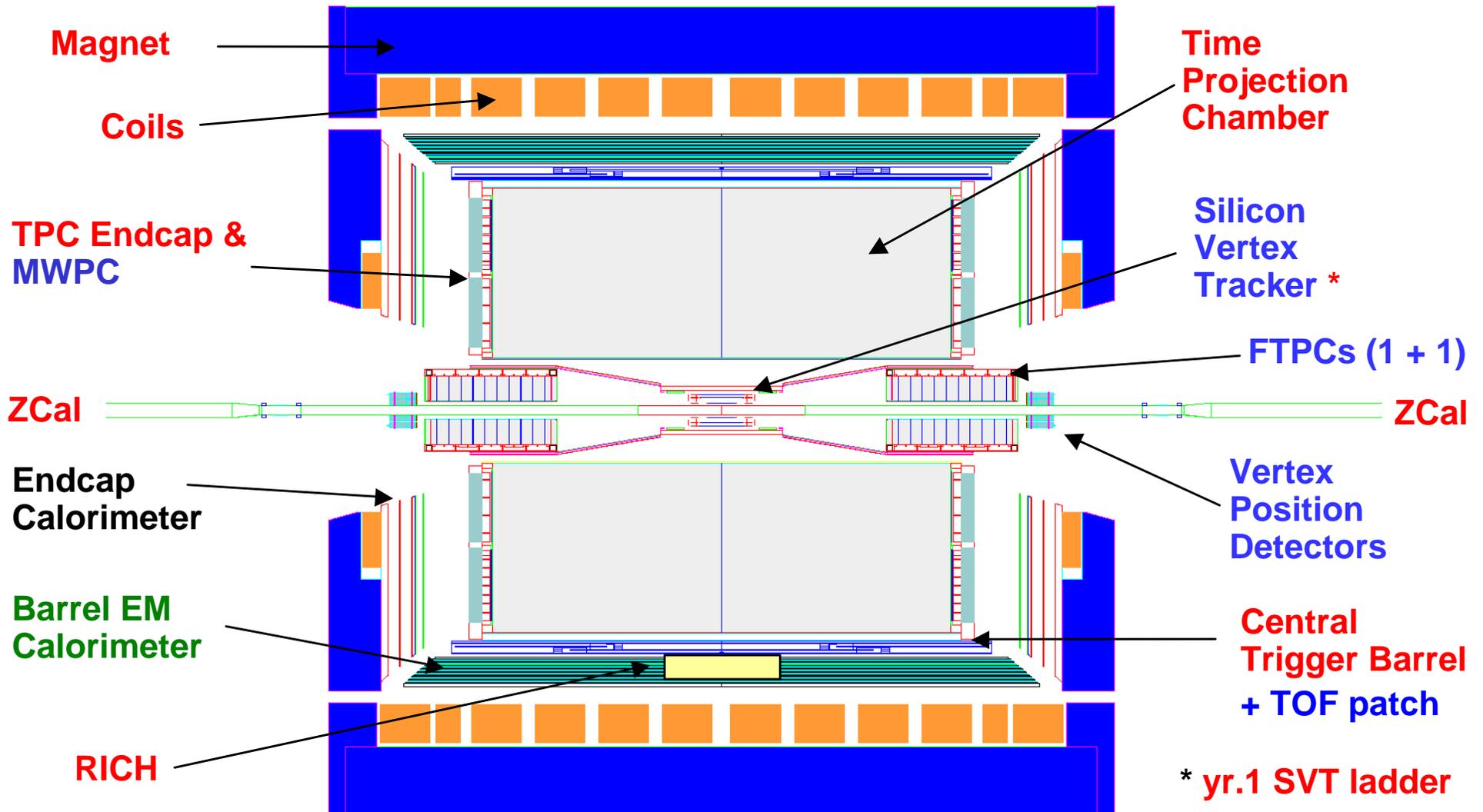
HBT - space-time evolution, source sizes

Event-by-Event physics, flow

Anti-baryons, anti-nuclei



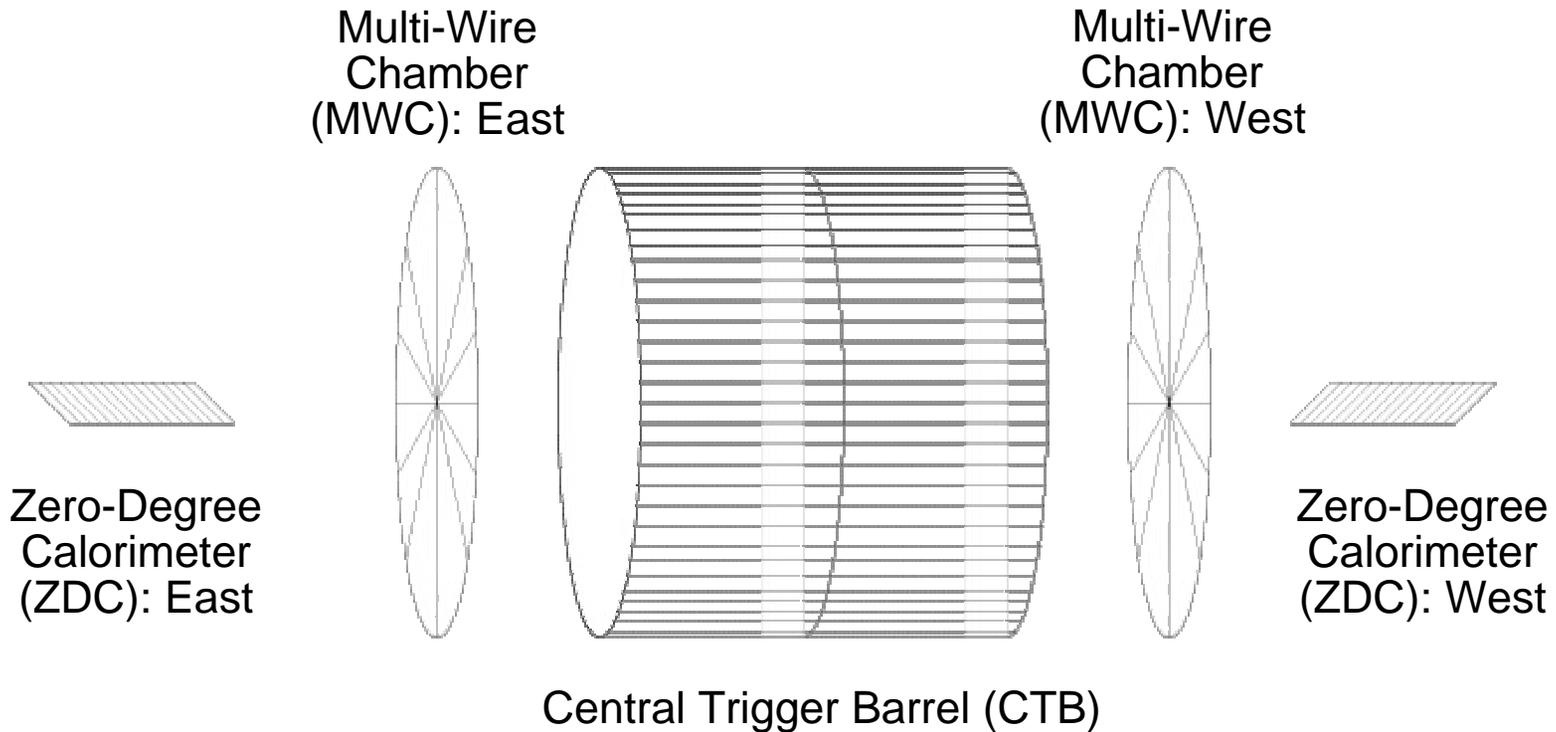
The STAR Detector (year-by-year)



1st year, 2nd year, year-by-year until 2003, installation in 2003



STAR Trigger



L0 trigger: initial event acceptance (ZDC \otimes CTB \otimes MWC \otimes VPD)

L1 and L2: abort accepted events (topology, more complex algorithm)

L3: Fast online event reconstruction on processor farm (100 Hz)

